Tips for Preparing User Friendly Consumer Confidence Reports

March 2005

Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

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The Washington State Department of Health, Office of Drinking Water would like to thank the State of Massachusetts Department of Environmental Protection for granting permission to reprint portions of their publication entitled, “Recommended Tips For Preparing User Friendly Consumer Confidence Reports, A Guide to the Massachusetts Requirements for Community Public Drinking Water Systems,” Edition 4, April 2002.

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Appendices

Introduction

All Group A community water systems are required to prepare and distribute consumer confidence reports (CCRs) to their customers and the Washington State Department of Health, Office of Drinking Water before July 1 each year.

CCRs are required by the 1996 Safe Drinking Water Act Amendments and Subpart B of Part 7 of Chapter 246-290 WAC. Reporting information about your water system and the quality of the water that you provide to your customers will help them make informed decisions regarding their water consumption.

The Office of Drinking Water (ODW) is responsible for implementing and enforcing these federal requirements in Washington state. This publication was prepared to assist public water systems (PWSs) in meeting the state and federal CCR regulations. It contains the basic information you need to prepare CCRs for your customers. The appendices contain additional information such as a sample CCR, certification form, and contaminant tables.

For the purpose of the CCR, customer means a billing unit or service connection to which water is delivered by a Group A community water system.

What is a Consumer Confidence Report?

A consumer confidence report is intended to be a brief annual water quality report from a PWS to its customers. The primary purpose of the CCR is to summarize water quality data that your water system already collects. It will also include information on compliance, source water, and some required educational information. Most CCRs will only need to be a few pages long.

A CCR tells people where their water comes from and what the water system does to deliver safe drinking water to their homes. This information helps people make informed choices about the water they drink. Your customers will know what contaminants, if any, are in their drinking water and how these contaminants may affect their health. The report also provides water utilities an opportunity to communicate with their customers about what it takes to deliver safe drinking water at the turn of the tap.

Who Must Prepare a Consumer Confidence Report?

All Group A community water systems (systems that serve at least 25 residents year-round, or have 15 or more service connections) **must** prepare and distribute an annual consumer confidence report.

A new Group A community water system **must** deliver its first report before July 1 of the year after its first full calendar year in operation, and annually thereafter.

A Group A community system that sells its water to another Group A community system **must** provide the buyer with monitoring data and other applicable information no later than April 1 annually, or on a date mutually agreed upon and specified in a contract between parties that will enable the buyer to produce its own CCR.

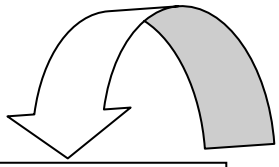
Consecutive Water Systems

A consecutive water system that purchases all of its water from another water system (a wholesaler) has the following options when preparing its CCR:

- Distribute its own report, using source and water quality information provided by the wholesaler; or
- Distribute the wholesaler's CCR and a cover letter or an insert detailing all information and monitoring data specific to the purchasing PWS.

If the second option is selected, the consecutive system **must** include the following information in its insert or cover letter:

- Required PWS information as it applies to the consecutive system. This includes: PWS ID number, town, contact information, and opportunities for public participation.
- The results of any monitoring performed by the consecutive system or performed in the distribution system of the consecutive PWS that is not included in the wholesaler's CCR. This applies to contaminants such as bacteria, total trihalomethanes, haloacetic acids, and lead and copper.
- Descriptions of any violations and corrective actions by the consecutive PWS and an explanation of any enforcement orders under which the consecutive system is operating.
- A description of how the water systems are interconnected.



Remember, regardless of who produces the CCR (the wholesaler or the consecutive PWS), the consecutive PWS is responsible for providing its customers with a CCR, containing all required content as detailed in this guidance document.

Regardless of which CCR option is chosen, **the consecutive system must submit its own certification form** to ODW.

When Should The Consumer Confidence Report Be Distributed?

Refer to Appendix B for certification form template.

Delivery to water system customers and the state Department of Health Office of Drinking Water (ODW) regional offices is due any time between January 1 and July 1 of each year. Although purveyors have until October 1 to send the certification form to the state, because it identifies individual reports and helps state staff properly track and record receipt of reports, ODW would like you to send in the certificate together with a copy of your report before the July 1 deadline.

ODW's Consumer Confidence web site contains good resources for your use.

Addition information from ODW can be found at: http://www.doh.wa.gov/ehp/dw/our_main_pages/consumer.htm This web site contains items like: a blank certification form, training opportunities, sample reports and templates, and a checklist of mandatory components.

What Information is Required?

Basic information required for all CCRs

The basic information that is required for each CCR falls into the following categories:

I. Water system information
II. Source information
III. Required statements
IV. Definitions of terms
V. Detected contaminants in finished water
VI. Compliance with drinking water regulations
VII. Required educational information

What is specifically required in each of the CCR categories will be different for each water system, particularly category V -- detected contaminants – which has many different requirements based on what each system monitors for and what is detected in the finished water.

See Appendix A for a sample CCR.

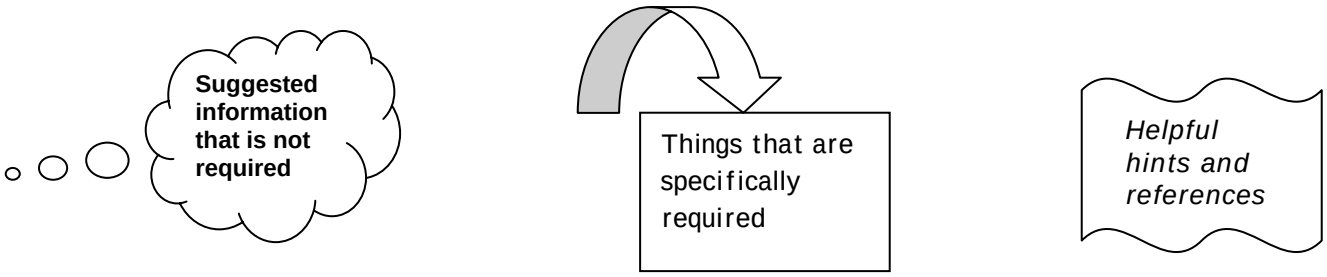
This publication is designed to assist your system in meeting the specific CCR reporting requirements. A sample CCR to help you develop your report is provided in Appendix A.

If you choose to prepare your CCR without using the template, you will find that the sections of this document are numbered to follow the basic

categories listed above. However, be advised that there is some suggested information that is detailed separately in the section entitled "Additional Information."

In each of the numbered sections, you will find detailed explanations of the requirements under each category. Use these sections to determine how the requirements apply to your system and what you need to report. Also, since much of the information you need is located in the appendices, you will find references to those throughout this document.

This guidance also includes special text boxes to assist in understanding your requirements. Look for these graphics in the margins:



This guidance document also includes special text formatting:

*Your CCR **must** include some language exactly as written. Throughout this publication, required text is indented and specially formatted in italics with a shaded background.*

Whenever you need to include an explanation in your CCR, you can usually do so in your own words. Suggested or example text is provided throughout this document in italics without shading.

Now, you're ready to begin. Remember, if you need help in producing your CCR, call the Office of Drinking Water regional office nearest you, listed on page 25.

Tips to Tap:

- Make your CCR stand out so that it will be read!
- Use graphics and colors to highlight your data.
- Be sure to proofread your report for spelling, grammar, punctuation, and content accuracy.
- Keep in mind that the average customer is probably not as familiar with water quality data as you are, so keep it simple.
- Ask non-technical people to read your draft report to ensure that you are communicating your message.
- Let people know what you are doing to protect their drinking water.

I. Public Water System Information

All of the PWS information must be included in your CCR.

Consider including the name (or names) of your system's certified water works operator.

Most of the CCR is based on water quality data, system characteristics, and enforcement actions from the previous calendar year. Therefore, your report should indicate the previous year in its title. For example, the report you distribute by July 1, 2005 should say 2004 in its title. The title does not have to include the words "Consumer Confidence Report," but it should indicate that this is your water system's annual water quality report.

Each CCR **must** include:

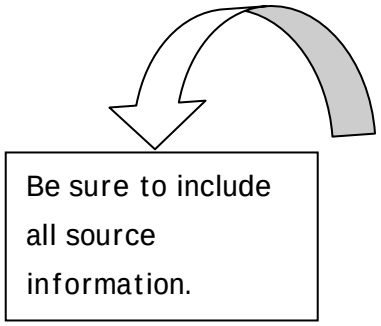
- The name of the system, city or town, and system's PWS ID number.
- Name and telephone number of the owner, operator, or designee of the water system as a person who can provide additional information about the system's drinking water and answer questions about the report.
- Information on meetings or other opportunities for customers to publicly discuss water quality issues.

II. Your Drinking Water Source

Drinking Water Source Information

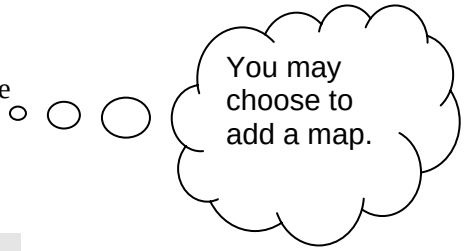
Each CCR **must** include the following information when describing water source(s):

- The number of sources.
- Type of water (ground water, surface water, or ground water under the direct influence of surface water, or blend).
- Commonly used name of the source(s).
- ODW source identification numbers.
- Location(s) of source(s) (refer to the Security Concerns section on Page 23 for more information on source location requirements).
- Explanation of any interconnections and back-up sources to note source variation during the year.
- Treatment information: you **must** explain the type of treatment being used and the purpose of the treatment. If you are not sure whether your system is required to include treatment information, please call your ODW regional office. Contact information is listed on page 25.



It is *recommended, but not required,* that you include in this section:

- A simple map of your system and its sources to present a clear picture of system operation.
- An explanation of any drinking water treatment.

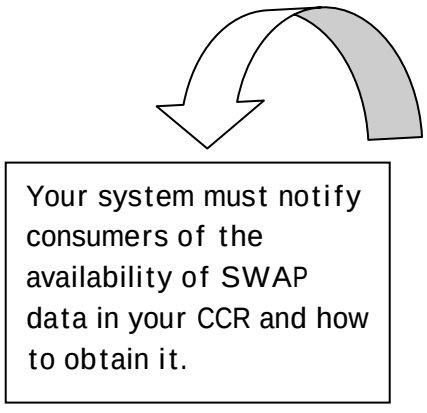


Source Protection Information

ODW has compiled source water assessment program (SWAP) data for all community water systems in Washington. SWAP data for your system is available by accessing our web site at: http://www4.doh.wa.gov/dw/swap/app/login.cfm?app=maps If you do not have access to the web, we encourage you to use the Internet service available through the public library system.

Use your SWAP information in your CCR to:

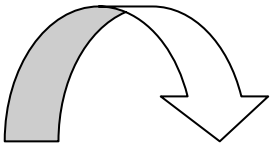
- Highlight significant sources of contamination in the source water area if information is readily available.
- Include the water system's susceptibility rating and a brief summary of the system's susceptibility to potential sources of contamination.
- Notify consumers of the availability of the report and how to obtain it.



III. Mandatory Language for All Reports

The CCR **must** contain the following statements about drinking water **exactly as written**:

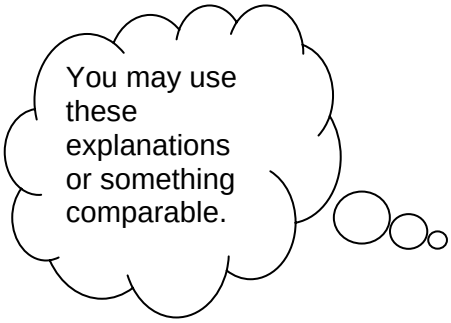
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).



The shaded language in this section is required by ODW to be included in your CCR.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Community water systems **must** also include basic information about drinking water contaminants which may reasonably be expected to be found in drinking water, including bottled water, and sources of contamination. This explanation may include the following language or something comparable:



You may use these explanations or something comparable.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

***Microbial contaminants**, such as viruses, parasites and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.*

Inorganic contaminants, *such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming.*

Pesticides and herbicides, *which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.*

Organic chemical contaminants, *including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.*

Radioactive contaminants, *which can be naturally-occurring or be the result of oil and gas production and mining activities.*

You **must** also include information on ODW and EPA regulations as they pertain to drinking water and bottled water. This information may include the following language, or something comparable:

In order to ensure that tap water is safe to drink, the Department of Health and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Washington Department of Agriculture regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

In communities with a large proportion of non-English speaking residents, the report **must** contain information in the appropriate language(s) regarding the importance of the report, or a telephone number or address where these residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.

ODW has translated four basic drinking water messages into 27 languages. These can be found online: http://www.doh.wa.gov/ehp/dw/translations/translations.htm

IV. Important Definitions

Required Definitions

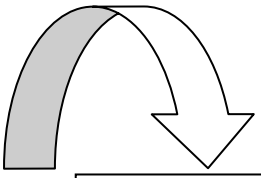
The exact wording of the following definitions **must** be included in your CCR to help customers understand the information in your tables:

Maximum Contaminant Level or MCL: *The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.*

The definitions in this section are required by EPA to be included in your CCR!

Maximum Contaminant Level Goal or MCLG: *The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.*

The following definitions need to be included in your report only if your report contains information on a contaminant that is regulated by an action level (e.g., lead and copper) or a treatment technique (such as turbidity).



You must include these definitions exactly as written if these terms apply to your monitoring data.

Action Level: *The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.*

Treatment Technique (TT): *A required process intended to reduce the level of a contaminant in drinking water.*

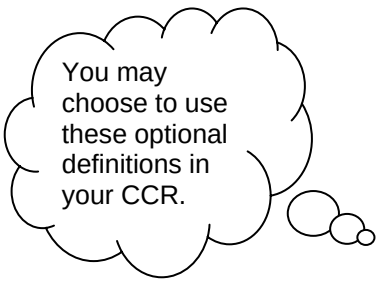
The following definitions **must** be included in the report **only if** your system continuously adds chemical disinfectants such as chlorine, chloramines or chlorine dioxide to the water and is reporting disinfection residuals regulated by the Stage 1 Disinfectants and Disinfection Byproducts Rule.

Maximum Residual Disinfectant Level (MRDL): *The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants (e.g. chlorine, chloramines, chlorine dioxide).*

Maximum Residual Disinfectant Level Goal (MRDLG): *The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.*

The following definition **must** be included in the CCR **only if** your water system was under a variance or exemption during the previous calendar year.

Variances and Exemptions: *State or EPA permission not to meet an MCL, an action level, or a treatment technique under certain conditions.*



You may choose to use these optional definitions in your CCR.

Optional Definitions

If you report detectable concentrations of secondary contaminants or contaminants with guidelines such as sodium and radon, it is *recommended but not required* that you include the following definitions.

Secondary Maximum Contaminant Level (SMCL): *These standards are developed to protect the aesthetic qualities of drinking water and are not health based.*

You may also want to include a definition such as the following to clarify reportable lead and copper 90th percentile information:

Lead and Copper 90th Percentile*: Out of every 10 homes sampled, 9 were at or below this level.*

Remember to define any acronyms you use in your report such as units of measure (ppm/ppb), N/A, ND, etc.

Refer to Appendix C- Regulated Contaminants - for definitions of units of measure.

V. Water Quality Testing Results

Water quality data is the most important part of the CCR. Your report **must** include **all** detections of contaminants in the "finished" water delivered to your customer, subject to mandatory monitoring pursuant to WAC 246-290-300(9).

This includes:

- Contaminants subject to an MCL, action level, maximum residual disinfectant level or treatment technique (regulated contaminants).
- Contaminants for which monitoring is required by WAC 246-290-300(9) (unregulated contaminants).
- Disinfection by-products or microbial contaminants for which monitoring is required and which are detected in the finished water.
- All other contaminants that have been *required* by the Office of Drinking Water

The CCR **must** include all reportable detections of these contaminants even if the results are in compliance with (or are less than) established MCLs or action levels.

A detected contaminant is any contaminant observed at or above the state reporting level (SRL). If the contaminant is reported by the laboratory as less than the SRL, not-detected (ND) or otherwise below the detection limit (BDL), you are not required to include that contaminant within your report.

Any detection of contaminants found during required monitoring must be reported in your CCR – even if they are below the MCL.

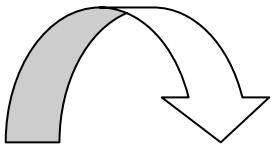
If the water is treated, only monitoring results of "finished" water must be included. Any contaminant detected in the water prior to treatment should not be included in the CCR (except cryptosporidium).

The CCR **must** include the water quality monitoring results from the *most recent round* of sampling for EACH monitoring group that is applicable to your system.

Monitoring groups include, but are not limited to, the following:

Many of these contaminant groups are referenced on your system's annual Water Quality Monitoring Report.

- **Microbiological contaminant**
- **Inorganic contaminants**
- **Sodium**
- **Lead and copper**
- **Synthetic organic contaminants**
- **Volatile organic contaminants**
- **Turbidity**
- **Radioactive contaminants (Radionuclides)**
- **Unregulated contaminants**
- **Cryptosporidium**
- **Disinfection byproducts and disinfectant residuals**
- **Other contaminants that have been <u>required</u> by ODW to be tested**
  This includes monitoring such as radon, uranium, tetrachloroethlyene (PCE) distribution system testing, iron and manganese testing, etc.



Include the most recent results – even if greater than one year old.

If sampling for a specific monitoring group was not conducted within the past year, you **must** include in the table the latest monitoring information available, but not older than five years. For example, if your system samples for a contaminant such as sodium once every three years, it would need to report the same detected sodium level in the CCR for the next three years until a new sample is collected.

Less than Annual Monitoring

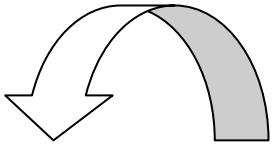
If your system tests for particular contaminants less often than once per year (for example, you monitor every three years), and a contaminant was detected in the last sampling round, you **must** include:

- The collection date and results of the contaminant within the table.
- A statement explaining that the data presented in the report is from the most recent testing done in accordance with the regulations.

The following is an example statement. You may choose to use this language or create your own:

The water quality information presented in the table(s) is from the most recent round of testing done in accordance with the regulations. All data shown were collected during the last calendar year unless otherwise noted in the table(s).

Monitoring Waivers



Remember you are required to include descriptions of your monitoring waivers.

If your system has received a waiver for a specific contaminant group, such as volatile organic chemicals (VOCs), inorganic chemicals (IOCs), or synthetic organic chemicals (SOCs) and is not required to monitor regularly, you **must** include a statement explaining that the data presented in the report are from the most recent testing done in accordance with the regulations.

The following is an example statement. You may choose to use this language or create your own:

The Washington State Department of Health has reduced the monitoring requirements for **[name of monitoring group(s)]** *because the source is not at risk of contamination. The last sample collected for these contaminants was taken on* **[date(s)]** *and was found to meet all applicable EPA and Department of Health standards.*

Table Inclusions

All data relating to reportable contaminants **must** be displayed in tabular format. Depending on the number of detections you have and the complexity of the information, you may choose to report the data in one table or in several adjacent tables.

The sample CCR in Appendix A will help you present your data correctly in a table format.

If a community water system distributes water to its customers from multiple hydraulically independent distribution systems fed by different raw water sources, the table should contain a separate column for each service area. The report should also identify each separate distribution system. As an option, systems could produce separate reports tailored to include data for each service area.

Some public water systems will need to include several tables to report different types of contaminants. For example:

- Lead and copper distribution system samples have action levels so they should be reported separately from regulated contaminants with established MCLs.
- Total coliform should be reported as the highest number or percentage of positive samples in a month (depending on the number of samples taken each month).

See "Contaminant Specific Table Inclusions" on Page 14 for more information on reporting lead and copper and total coliform.

- Secondary contaminants should be reported separately if a system chooses to include those results.

You will need to include definitions and footnotes to clarify the information in the tables. Remember that the goal is to make your water quality data as understandable as possible to your customers.

Units Of Measure

See Appendix C for help in converting MCLs, action levels and monitoring data for the CCR.

Be careful to match or otherwise note correct units of measure when referencing multiple contaminants under a general column label or heading. When rounding results to determine compliance with an MCL, rounding should be done prior to multiplying the results by any conversion factors. Use of CCR units would require that the MCL be expressed as a number greater than 1. Report the MCLG and level of the detected contaminant in those same units. For example, atrazine is usually reported in mg/L or ppm. The MCL for atrazine is 0.003 mg/L. If your system detected atrazine at 0.0003 mg/L, it is assumed that it would be difficult for consumers to understand at a glance that your water is 10 times below the MCL. Once converted, the report would report the atrazine detect as 0.3 ppb and the atrazine MCL as 3 ppb.

Table Format

A summary of the requirements for water quality tables is presented here. The regulated contaminant table in your CCR **must** include the following:

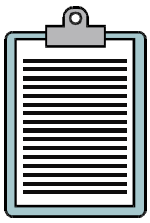
Acronym reminder:
MCL *= maximum contaminate level*
MRDL *= maximum residual disinfectant level*
MCLG *= maximum contaminate level goal*
MRDLG *= maximum residual disinfection level goal*

Columns for:
- MCL/MRDL and MCLG/MRDLG (This applies to most contaminants. Refer to the following section "Contaminant Specific Table Inclusions" for exceptions.)
- The likely source(s) of contaminants.
- Sample collection date or range of dates if the detection reported is older than 1 year.
- Identification of violations.

Monitoring Results - The table **must** include the following numbers (in italics) if applicable for each detected contaminant (except for coliform, turbidity, and lead and copper). Report the results in the same units as the MCL and MCLG:

One sample site:

- **One sample date –** report the *highest detected level*.
- **Multiple sampling dates** – report the *average* of the samples taken and the *range* of detections.
- **Multiple sampling dates (running average for source samples)** – report the *highest running annual average* and the *range* of detections.



Multiple sampling sites:

- **One sample date** – report the *highest detected level* and *range* of detections.
- **Multiple sampling dates (source samples)** – report the *highest average results for an individual source* and the *range* of detections for all sources.
- **Multiple sampling dates (running average for source samples)** – report the *highest running annual average* calculated by individual source and the *range* of detections.
- **Multiple sampling dates (running annual average for distribution samples)** – report the *highest running annual average* of all samples and the *range* of detections. (Note that this applies to THMs and HAA5s only).

You may use the words in italics as column headings. Alternately, you may have one column for "Range" and a second titled "Results" or something similar. However, you should include an explanation that the numbers in the "Results" column represent the highest concentration upon which your system's compliance is based, not necessarily the highest concentration detected.

Any contaminant detected in violation of an MCL, MRDL, treatment technique, or exceeding an action level **must** be clearly highlighted in the table.

Contaminant-Specific Table Inclusions

Some contaminant groups have special reporting and table formatting requirements based on how they are regulated. These requirements are detailed below:

Turbidity

- When reported as an MCL for surface water or ground water under the direct influence of surface water (GWI) systems that must install filtration but have not, include the highest average monthly value.

- When reported as a treatment technique (TT) for surface water or GWI systems that meet the criteria for avoiding filtration, include the highest monthly value. Explain the reasons for measuring turbidity, for example:

  Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.

- When reported as a TT for surface water or GWI systems that filter and use turbidity as an indicator of filtration performance, include the highest single measurement **and** the lowest monthly percentage of samples meeting the turbidity limits specified in WAC 246-290-660 for the relevant filtration technology. You **must** explain the reasons for measuring turbidity, for example:

  Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

Lead and copper. Include the number of sites sampled, the 90th percentile value from the most recent sampling and the number of sampling sites exceeding the action level. For lead and copper only, if monitoring is performed more than once annually, it is only required to report the results of the most recent round.

Total coliform

- Systems that collect fewer than 40 samples per month should include the highest *number* of positive routine distribution samples collected in any one month. The total coliform count (if measured) should not be reported, only the number of samples that were total coliform positive.
- Systems that collect 40 or more samples per month should include the highest *percentage* of positive routine distribution samples collected in any one month.

Fecal coliform or E. coli. Include the highest total number of fecal coliform or E. coli positive routine distribution samples collected in any one month.

Radionuclides

- ***Gross Alpha.*** For gross alpha detections, the reported results should reflect the subtraction of any uranium (pCi/l) values detected.

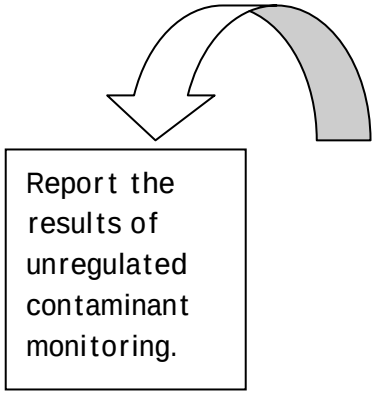
- ***Radium 226 & 228***. For radium 226 and radium 228 detections, add the two results together and report the total COMBINED (pCi/l) value.

- ***Uranium.*** Report uranium detections in ppb units of measure. If uranium values are not listed on the laboratory report in ppb units of measure, convert available ppm or pCi/l values to the appropriate ppb value: (pCi/L uranium x 1.49 = ppb uranium) or (ppm x 1000 = ppb).

Reporting Unregulated Contaminants

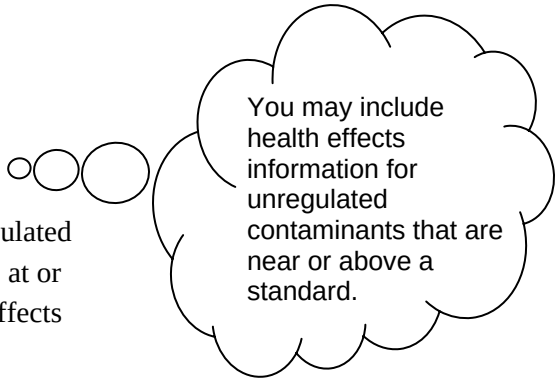
If you detect unregulated contaminants for which state or federal rules require monitoring pursuant to WAC 246-290-300(9), you **must** report the following in your CCR:

- The average of the entire year's monitoring results.
- The range of detections.



It is also recommended that you include an explanation for the system's monitoring of unregulated contaminants. You may use the following example statement or you may create your own:

> *Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.*



Health effects statements are **not** required to be reported for unregulated contaminants. However, if your system reports detections that are at or near a standard, it is recommended that you include some health effects information.

Reporting Contaminants with Proposed MCLs or Health Advisory Levels

If a system performed additional monitoring that indicates the presence of other contaminants found in the finished water, the system **must** report any results that may indicate a health concern. A health concern would be any detections above a proposed MCL or health advisory level.

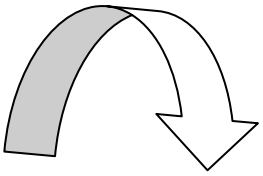
This may include any of the following contaminants:

- Sodium
- Radon
- Nickel
- Sulfate

- Any other unregulated contaminant that you are directed to monitor for by the Office of Drinking Water

Report in the CCR:
- The results of the monitoring.
- An explanation of the significance of the results.

Be careful not to list guidelines or secondary maximum contaminant levels (SMCLs) as MCLs. And remember, exceeding a secondary MCL is not a violation.



Reporting of secondary contaminants is not required unless your PWS is required to monitor for them by ODW.

Reporting Other Contaminants

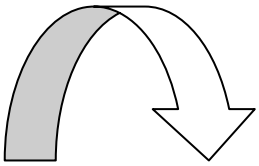
If **voluntary monitoring** indicates the presence of secondary contaminants or other special contaminants in the finished water, it is not required that the results be reported in the CCR.

If the system chooses to report the results, they **must** be displayed in a separate table from the other contaminants.

Also, it is *recommended but not required* that the table include the following information:

- The average and range of the detections.
- An explanation of the significance of the results.
- Any applicable secondary contaminant or guideline levels.
- Any applicable definitions.

Reporting Contaminant Violations



All water quality violations must be clearly highlighted in the water quality table.

Any contaminant detected in violation of an MCL, MRDL, treatment technique, or exceeding an action level **must** be clearly highlighted in the table.

The report **must** contain a readily understandable explanation of the violation or exceedance including:

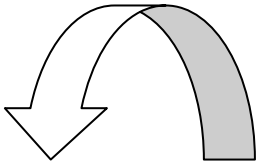
- The length of the violation.
- The potential adverse health effects.
- Actions taken by the system to address the violation.

See Appendix C, "Regulated Contaminants" for adverse health effects language.

You **must** also include the required health effects language for the contaminant.

Actions taken to address the violation or exceedance may be addressed in a subsequent paragraph separate from the table.

VI. Compliance With Other Drinking Water Regulations



You must report all violations of Drinking Water Regulations during the past year.

If your water system has violated or continues to violate any Drinking Water Regulation during the reporting period, your CCR **must** describe the violation(s). This description must include:

- The violation that occurred or continues to occur during the year covered by the report.
- A clear explanation of the violation.
- Any potential adverse health effects.
- Steps taken by your system to correct the violation.

You **must include** violations of any of the following requirements:

- **Monitoring and reporting compliance data.** If you incur a violation for failure to monitor or report, include a statement that explains when the violation occurred, what monitoring groups were involved, and what steps have been taken since the violation occurred (for example, a sample was taken at a later date).

Note: Your CCR may be used to meet the Public Notification (PN) distribution requirement for monitoring or reporting violations, provided all other PN requirements are met. It may also be used to meet the special requirements for fluoride if your system detected it above 2.0 ppm, but below the MCL of 4.0 ppm. Also refer to subpart A, part 7 of chapter 246-290 WAC.

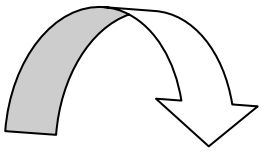
- **Filtration and disinfection processes on surface water or GWI systems.** If the violation was due to a failure to install adequate filtration or disinfection equipment or processes or there was a failure of that equipment or process, the following language **must** be included in the CCR:

> *Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.*

- **Lead and copper requirements.** If the violation was a failure to meet corrosion control treatment, source water treatment, or lead service requirements, you **must** include health effects language for lead, copper, or both.
- **Treatment techniques for acrylamide and epichlorohydrin.** If either treatment technique is violated, the appropriate health effects language **must** be included.
- **Record keeping requirements.**
- **Special monitoring requirements.**
- **Violation of the terms of a variance, an exemption, or administrative or judicial order.**
- **Capacity.** Report any capacity deficiencies as determined by the Office of Drinking Water.
- When an event occurs during the reporting year which causes a PWS to violate surface water treatment requirements or any other drinking water standard, that violation **must** be included in the CCR.
- Any additional information specifically requested by the Office of Drinking Water.

If the system is operating under a variance or exemption at any time during the reporting year you **must** include:

- An explanation of the variance or exemption.
- The date it was issued and reason why it was granted.
- A status report on what the system is doing to remedy the problem.
- A notice to the public for input on the review or renewal of variance or exemption.



Report if you are operating under any orders.

Reporting of Orders

If applicable, your CCR **must** include information about violation of the terms of any order issued by the Department of Health. This may include the terms of the order, the reason for the order, and the actions being taken to comply with the order. Additionally, *it is recommended* that you state what progress has been made with the terms of the order, and what the estimated date is for completing the order.

VII. Educational Information

Special Requirements for Cryptosporidium and Radon

If cryptosporidium or radon is detected in the water at any concentration, you **must** include the results in your CCR.

Cryptosporidium

If monitoring indicates the presence of cryptosporidium in either the source water or the finished water, include in the report:

- A summary of the results of the monitoring.
- An explanation of the significance of the results. Tell customers if they need to be concerned by the information in the CCR.

Report ANY detects of cryptosporidium in raw OR finished water.

The following is an example statement. You may choose to use this language or create your own:

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Our monitoring indicates the presence of these organisms in our source water (and/or finished water). Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease.

Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immunocompromised people have more difficulty and are at greater risk of developing severe, life-threatening illness. Immunocompromised individuals are encouraged to consult their doctor regarding appropriate precautions to prevent infection. Cryptosporidium must be ingested for it to cause disease, and may be passed through other means than drinking water.

You may use this explanation or write your own.

Radon

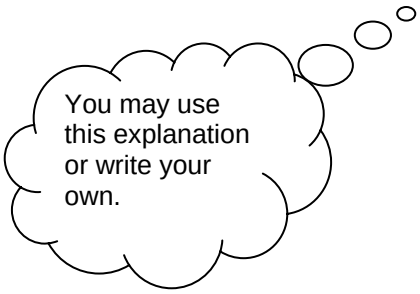
If monitoring indicates the presence of radon in finished water, include in the report:

- The results of monitoring.

If radon is detected the results must be reported with an explanation of the results.

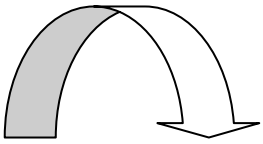
- An explanation of the significance of the results. Tell customers if they need to be concerned by the information in the CCR.

The following is an example statement. You may choose to use this language or create your own:



Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will be (in most cases) a small source of radon in indoor air.

Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information on radon, call EPA's Radon Hotline, at (800) SOS-RADON.



Special educational statements are required if your PWS detected any of the contaminants in the concentrations specified.

Special Requirements for Arsenic, Nitrate and Lead

A special educational statement is required if your water system detected arsenic, nitrate, or lead in the following concentrations:

- Nitrate above 5 ppm (50% of the MCL), but below the MCL of 10 ppm;
- Arsenic above 5 ppb (50% of the MCL), but below the MCL of 10 ppb; or
- Lead above the action level in more than 5%, up to and including 10%, of the homes sampled.

If you meet any of the criteria above, you **must** include a short informational statement like the following, as applicable, in your CCR, or write your own educational statement in consultation with ODW.

Nitrate. *Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.*

Lead. *Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to 2 minutes before using tap water to reduce lead content. Additional information is available from the Safe Drinking Water Hotline, 800-426-4791.*

Arsenic. *While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic which is a mineral know to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.*

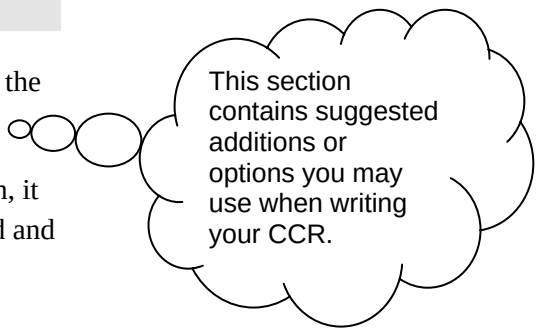
Note: Until January 22, 2006, a community water system that detects arsenic above 10 ppb, and up to and including 50 ppb, **must** include the following health effects language in their CCR:

Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

VIII. Additional Information

Recommended Information

ODW *recommends, but does not require* that you consider including the following additional information in your CCR:



- Treatment information. If you have treatment such as fluoridation, it is recommended that you explain the type of treatment being used and the purpose of the treatment.

- A simple map of your system and its sources to present a clear picture of system operation.
- An additional statement on lead for those systems in compliance.
- Source protection information.

Security Concerns

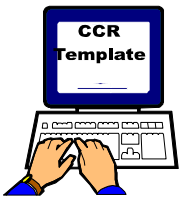
Some water systems have expressed concern about the release of specific water source locations to the public. It is the view of the Office of Drinking Water that an informed public is the best line of protection. However, the Environmental Protection Agency has provided flexibility in the Consumer Confidence Report regulations as to appropriate source location information.

While a system is still encouraged to include as much source information as is comfortable. At a minimum source location information to be provided includes:

- For surface waters: listing the water body where the intake is located.
- For ground water: the name of the principal aquifer, although a general location (for example, “off of Park Street”) would be preferred.

Water systems who voluntarily post their CCR on the internet, may also choose to remove sensitive information from the internet version of the report.

Templates



Some systems may find it helpful to use a template for producing their CCR. Please refer to the web sites listed on page 26 for sample CCR templates. Each requires entering your monitoring data into the formatted report, along with any additional MCL, MRDL and/or health information. If you choose to use a template from a water works association or other source, please remember that it may have to be adapted to meet the Washington CCR requirements.

Annual Lead Public Education

Systems required to do an annual public education for exceedance of the lead action level may distribute their educational materials as an insert within their CCR.

Please be aware that inclusions of required CCR lead statements alone are not sufficient to meet this requirement. There are other actions that a public water supplier must do to complete the delivery requirements of the Lead and Copper Rule that cannot be addressed by the CCR.

New Billing Units

The Office of Drinking Water recommends that public water systems provide a copy of their CCR or notice of availability of the CCR to new billing units and hook-ups when service begins.

IX. Distribution Requirements

Distribution of your CCR **must** be completed no later than **every July 1st** including one copy to ODW. The water system **must** mail or otherwise directly deliver one copy of the report to each customer. The system **must** make a good faith effort to reach customers who do not get water bills. The Office of Drinking Water expects that an adequate good faith effort will be tailored to the consumers who are served by the system but are not bill-paying customers, such as renters or workers.

A good faith effort to reach customers would include a mix of methods appropriate to the particular system such as:

- Posting the reports on the Internet; mailing to postal patrons in metropolitan areas.
- Advertising the availability of the report in the news media.
- Publication in a local newspaper.
- Posting in public places like cafeterias or lunch rooms of public buildings.
- Delivery of multiple copies for distribution by single-biller customers such as apartment buildings or large private employers.
- Delivery to community organizations.

Before October 1 of each year, water systems **must** submit to ODW the signed and completed certification form explaining how the report was distributed and certifying that the information in the report is correct and consistent with the compliance monitoring data previously submitted to

ODW. We strongly encourage you to send the certificate at the same time you submit your annual CCR to us.

Additionally, your system is required to keep copies of your CCRs on file for no less than three years.

If your CCR is not submitted on time it is considered a violation and is subject to enforcement actions by the Office of Drinking Water and/or EPA.

X. Need More Help?

ODW Consumer Confidence Report Regional Contacts

Northwest Regional Office
(253) 395-6750

Southwest Regional Office
(360) 664-0768

Eastern Regional Office
(509) 456-3115

Technical Assistance Providers

Evergreen Rural Water of Washington
(800) 272-5981

Rural Community Assistance Corporation
(360) 493-0785 or (509) 868-2290

Related Publications

DOH Publications:
Fact sheet: "Consumer Confidence Reports, A yearly report on drinking water quality and safety," DOH publication #331-209.

Spiral-bound book: "Group A Public Water Systems, Chapter 246-290 WAC," DOH publication #331-010. This is also available on CD.

Other DOH publications are available on the Internet: www.doh.wa.gov/ehp/dw, or by calling (800) 521-0323.

EPA Publications:
"CCR Writer Version 1.5, EPA #816C99001, CD-ROM format

"CCRiWriter," EPA # 816F02027

"Consumer Confidence Report Rule: A Quick Reference Guide," EPA #816F02026

"Consumer Confidence Reports: Building Public Trust – National Drinking Water Standards (Dinking Water Pocket Guide #1), EPA #816-K03003

"National Primary Drinking Water Regulation: Consumer Confidence Reports Rule," EPA #816Z98005

"Preparing Your Drinking Water Consumer Confidence Report Guidance for Water Suppliers," EPA #816R99002

These publications are available on the Internet:
http://yosemite.epa.gov/water/owrccatalog.nsf/

Or by contacting:
US Environmental Protection Agency
Water Resource Center (RC-4100)
1200 Pennsylvania Avenue NW
Washington DC 20460
Telephone: (800) 426-4791
E-Mail: center.water-resource@epa.gov

Web Sites with Additional Information and CCR Templates

Environmental Protection Agency Homepage
http://www.epa.gov/

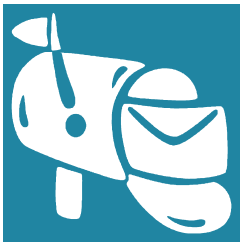
Evergreen Rural Water of Washington
http://www.erwow.org/

Midwest Assistance Program
http://www.map-inc.org/publications/publications/consumerconfidencereport.htm

Department of Health, Office of Drinking Water CCR web site
http://www.doh.wa.gov/ehp/dw/our_main_pages/consumer.htm

XI. Where to Send Your Report

Copies of your CCR (due July 1 annually to customers and ODW), and completed certification form (due to ODW October 1), should be sent to the regional office closest to you:



Office of Drinking Water
Northwest Regional Office
Attn: Consumer Confidence Report
20435 72nd Avenue South, Suite 200
Kent, WA 98032

Office of Drinking Water
Southwest Regional Office
Attn: Consumer Confidence Report
PO Box 47823
Olympia, WA 98504-7823

Office of Drinking Water
Eastern Regional Office
Attn: Consumer Confidence Report
1500 4th Avenue, Suite 305
Spokane, WA 99204

Appendix A

Sampletown Water Quality Report - 2003

Last year, we conducted more than 500 tests for over 80 drinking water contaminants. We only detected 7 contaminants, and found only atrazine at a level higher than the state allows. As we told you in a letter at the time, our water was temporarily unsafe. For more information, see the shaded box in this report concerning "atrazine violation." This brochure is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. For more information about your water, call 867-5309 and ask for Joe Sampson.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Your water comes from three municipal wells sunk about 500 feet into an underground source of water called the Low Plain Aquifer. These wells are located west of town behind the municipal garage. The town owns the land around these wells and restricts any activity that could contaminate them. After the water comes out of the wells, we treat it to remove several contaminants and we also add disinfectant (chlorine) to protect you against microbial contaminants. The state performed an assessment of our source water in January 2001. We will report the results to you and tell you how to get a copy of the report when it is available.

Our Water Board meets on the first Tuesday of each month at 7:30 pm in the Town Hall. Please feel free to participate in these meetings.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radio-active material, and can pick up substances resulting from the presence of animals or from human activity.

<u>Contaminants that may be present in source water before we treat it include:</u>

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture and residential uses.
- Radioactive contaminants, which are naturally occurring.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water which **must** provide the same protection for public health.

About our atrazine violation: During March, April and May, a big surge in the use of atrazine-based herbicides by area farmers caused our water to exceed the MCL for atrazine. We sent a notice warning you of this problem when it occurred. We are working with the state and local farmers to ensure that this never happens again, and we are monitoring atrazine levels monthly. We regret exposing you to any potential risk. You should know that some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties. If you want more information about atrazine or the violation, please call us (867-5309), Sample County's health department (423-4444), or the state drinking water office (853-323-3333).

WATER QUALITY DATA

The table below lists all the drinking water contaminants that we detected during the 2003 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1-December 31, 2003. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Terms & abbreviations used below:

• Maximum Contaminant Level Goal (MCLG): the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

• Maximum Contaminant Level (MCL): the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

• Maximum Residual Disinfectant Level (MRDL): the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants (ex. Chlorine, chloramines, chlorine dioxide.

• Maximum Residual Disinfectant Level Goal (MRDLG): the level of a drinking water disinfectant below which there is no know or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

• Action Level (AL): the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

• n/a: not applicable • nd: not detectable at testing limit • ppb: parts per billion or micrograms per liter • ppm: parts per million or milligrams per liter • pCi/l: picocuries per liter (a measure of radiation)

Inorganic Contaminants	**MCL**	**MCLG**	**Sampletown Water**	**Range of detections**	**Sample Date**	**Violation**	**Typical Source of Contaminant**
Fluoride (ppm)	2*	4	0.98	-			water additive which promotes strong teeth
Nitrate as nitrogen (ppm)	10	10	6	nd-9			runoff from fertilizer use
Organic Chemical Contaminants							
Atrazine (ppb)	3	3	3.275	.1-10		YES	runoff from herbicide used on row crops
Radionuclides							
Beta/photon emitters (pCi/L)	50 **	0	10				erosion of natural deposits
Lead	**AL**	**MCLG**	**Sampletown Water**	**# of sites found above the AL**			
Lead (ppb)	15	0	0.205	1 site above AL out of 20 sites sampled			corrosion of household plumbing systems
Unregulated Contaminants							
Chloromethane (ppb)	not regulated		0.07		May 1999		EPA regulations require us to monitor this contaminant while EPA considers setting a limit on it.
Disinfection Byproducts (ppb)	**MCL**	**MCLG**	**Sampletown water**	**Range of detections**	**Sample Date**	**Violation**	**Typical Source of Contaminant**
Haloacetic Acids (HAA) (ppb)	60	n/a	10	6 - 12			by-product of drinking water chlorination
Total Trihalomethanes (TTHMs) (ppb)	80	n/a	73	40-135			by-product of drinking water chlorination
Chlorine Residual (ppm)	4.0 (MRDL)	4 (MRDLG)	2.0	1.0 – 3.1			measure of disinfectant added to water

* EPA's MCL for fluoride is 4 ppm. However, our state has set a lower MCL to better protect human health.

** The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/l to be the level of concern for beta particles.

About Nitrate: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

Is our water system meeting other rules that govern our operations? The state and EPA require us to test our water on a regular basis to ensure its safety. In February and May of this year, we took the samples at the required time but failed to submit the results of this monitoring to the state in a timely manner. We are reviewing our procedures to ensure that this paperwork will be submitted in a timely manner in the future.

Washington State Department of Health
Division of Environmental Health
Office of Drinking Water

Appendix B

Consumer Confidence Report Certification Form

For Calendar Year 2004 Reports due before July 1, 2005

This certification form is due before October 1, 2005

Please note: Although the report and certification are not required to be sent to the state by the same date, if Drinking Water Regional Office Staff receive the certification at the same time as the report (by July 1, 2005), we will be better able to identify your report and properly credit your system.

1. Please complete and attach this certification to your Consumer Confidence Report. Send both to the regional office for your county (addresses on back) **before July 1, 2005**. File a copy for your records.

2. Mail or deliver your report and certification with enough advance time for the report to be received in the regional office **before July 1, 2005,** in order to be credited for compliance purposes. Copies of reports received after July 1 will not be considered on time, even if postmarked July 1. Copies of certifications received after October 1 will not be considered on time, even if postmarked October 1.

Certification For:

Water System Name_____

Water System ID Number _____

Water System County _____

I confirm that this Consumer Confidence Report has been distributed in accordance with the Consumer Confidence Report State Requirement (Subpart B of part 7 of chapter 246-290 WAC) and that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the Washington State Department of Health Office of Drinking Water.

Certified By:

Signature _____

Printed Name _____

Phone _____

Date _____

DOH Form #331-203

DEPARTMENT OF HEALTH OFFICE OF DRINKING WATER
REGIONAL OFFICE ADDRESSES

- For systems located in the following counties: **Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Kitsap, Lewis, Mason, Pacific, Skamania, Thurston, and Wahkiakum**, send to:

  Attn: Consumer Confidence Report
  Washington State Department of Health
  Office of Drinking Water
  Southwest Regional Office — Phone: (360) 664-0768
  PO Box 47823 — Fax: (360) 664-8058
  Olympia, WA 98504-7823

- For systems located in the following counties: **Island, King, Pierce, San Juan, Skagit, Snohomish, and Whatcom**, send to:

  Attn: Consumer Confidence Report
  Washington State Department of Health
  Office of Drinking Water
  Northwest Regional Office — Phone: (253) 395-6750
  20435 - 72nd Ave S Ste 200 — Fax: (253) 395-6760
  Kent, WA 98032

- For systems located in the following counties: **Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima**, send to:

  Attn: Consumer Confidence Report
  Washington State Department of Health
  Office of Drinking Water
  Eastern Regional Office — Phone: (509) 456-3115
  1500 W 4th Ave Ste 305 — Fax: (509) 456-2997
  Spokane, WA 99204

Appendix C

Regulated Contaminants in Washington State (WAC 246-290-72012)
Detections of any contaminants on this list must be reported in your CCR.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Microbiological Contaminants						
Total Coliform Bacteria	MCL: (systems that collect ≥40 samples/month) 5% of the monthly samples are positive; (systems that collect <40 samples/month) 1 positive monthly sample (CCR units do not apply)			0	Naturally present in the environment	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Fecal coliform and *E. coli*	MCL: a routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive			0	Human and animal fecal waste	Fecal coliforms and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
Turbidity	TT			n/a	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Radioactive Contaminants						
Beta/photon emitters (pCi/l)	4 mrem/yr	-	4	0	Decay of natural and man-made deposits	Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Alpha emitters (pCi/l) (If tested, subtract uranium (pCi/l) from gross alpha value)	15 pCi/l	-	15	0	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Radium 226 & 228 combined (pCi/l) (Add 226 & 228 results together and report the combined value)	5 pCi/l	-	5	0	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (ppb)	30 ppb	-	30	0	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Inorganic Contaminants						
Antimony (ppb)	.006	1000	6	6	Discharge from petroleum refineries, fire retardants; ceramics; electronics; solder	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
Arsenic (ppb) Effective 1-23-06	.05 .01	1000 1000	50 10	n/a 0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Asbestos (MFL)	7 MFL	-	7	7	Decay of asbestos cement water mains; Erosion of natural deposits	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium (ppm)	2	-	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	.004	1000	4	4	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries;	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Cadmium (ppb)	.005	1000	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chromium (ppb)	.1	1000	100	100	Discharge from pulp mills; Erosion of natural deposits	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Copper (ppm)	AL=1.3	-	AL=1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide (ppb)	.2	1000	200	200	Discharge from metal factories; Discharge from plastic and fertilizer factories	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride (ppm)	4	-	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
Lead (ppb)	AL=. 015	1000	AL=15	0	Corrosion of household plumbing systems; Erosion of natural deposits	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Mercury [inorganic] (ppb)	.002	1000	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate (ppm)	10	-	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrite (ppm)	1	-	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Selenium (ppb)	.05	1000	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Thallium (ppb)	.002	1000	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Synthetic Organic Contaminants including Pesticides and Herbicides						
2,4-D (ppb)	.07	1000	70	70	Runoff from herbicide used on row crops	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP [Silvex](ppb)	.05	1000	50	50	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Acrylamide	TT	-	TT	0	Added to water during sewage/ wastewater treatment	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Alachlor (ppb)	.002	1000	2	0	Runoff from herbicide used on row crops	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Atrazine (ppb)	.003	1000	3	3	Runoff from herbicide used on row crops	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene [PAH] (ppt)	.0002	1,000,000	200	0	Leaching from linings of water storage tanks and distribution lines	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran (ppb)	.04	1000	40	40	Leaching of soil fumigant used on rice and alfalfa	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
Chlordane (ppb)	.002	1000	2	0	Residue of banned termiticide	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon (ppb)	.2	1000	200	200	Runoff from herbicide used on rights of way	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.
Di(2-ethylhexyl) adipate (ppb)	.4	1000	400	400	Discharge from chemical factories	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Di(2-ethylhexyl) phthalate (ppb)	.006	1000	6	0	Discharge from rubber and chemical factories	Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane (ppt)	.0002	1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, and orchards	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb (ppb)	.007	1000	7	7	Runoff from herbicide used on soybeans and vegetables	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
Diquat (ppb)	.02	1000	20	20	Runoff from herbicide use	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Dioxin [2,3,7,8-TCDD] (ppq)	.00000003	1,000,000,000	30	0	Emissions from waste incineration and other combustion; Discharge from chemical factories	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall (ppb)	.1	1000	100	100	Runoff from herbicide use	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin (ppb)	.002	1000	2	2	Residue of banned insecticide	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin	TT=0.01% dosed at 20 ppm	100	TT=1%	0	Discharge from industrial chemical factories; An impurity of some water treatment chemicals	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (ppt)	.00005	1,000,000	50	0	Discharge from petroleum refineries	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
Glyphosate (ppb)	.7	1000	700	700	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor (ppt)	.0004	1,000,000	400	0	Residue of banned pesticide	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Heptachlor epoxide (ppt)	.0002	1,000,000	200	0	Breakdown of heptachlor	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene (ppb)	.001	1000	1	0	Discharge from metal refineries and agricultural chemical factories	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene (ppb)	.05	1000	50	50	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
Lindane (ppt)	.0002	1,000,000	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor (ppb)	.04	1000	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl [Vydate] (ppb)	.2	1000	200	200	Runoff/leaching from insecticide used on apples, potatoes and to-matoes	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
PCBs [Polychlorinated biphenyls] (ppt)	.0005	1,000,000	500	0	Runoff from landfills; Discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachlorophenol (ppb)	.001	1000	1	0	Discharge from wood preserving factories	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram (ppb)	.5	1000	500	500	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine (ppb)	.004	1000	4	4	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene (ppb)	.003	1000	3	0	Runoff/leaching from insecticide used on cotton and cattle	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Volatile Organic Contaminants						
Benzene (ppb)	.005	1000	5	0	Discharge from factories; Leaching from gas storage tanks and landfills	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride (ppb)	.005	1000	5	0	Discharge from chemical plants and other industrial activities	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Chlorobenzene (ppb)	.1	1000	100	100	Discharge from chemical and agricultural chemical factories	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene (ppb)	.6	1000	600	600	Discharge from industrial chemical factories	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.
p-Dichlorobenzene (ppb)	.075	1000	75	75	Discharge from industrial chemical factories	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene (ppb)	.007	1000	7	7	Discharge from industrial chemical factories	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-Dichloroethylene (ppb)	.07	1000	70	70	Discharge from industrial chemical factories	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
trans-1,2-Dichloroethylene (ppb)	.1	1000	100	100	Discharge from industrial chemical factories	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane (ppb)	.005	1000	5	0	Discharge from pharmaceutical and chemical factories	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Ethylbenzene (ppb)	.7	1000	700	700	Leaks and spills from gasoline and petroleum storage tanks	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Styrene (ppb)	.1	1000	100	100	Discharge from rubber and plastic factories; Leaching from landfills	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
Tetrachloroethylene (ppb)	.005	1000	5	0	Discharge from factories and dry cleaners	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene (ppb)	.07	1000	70	70	Discharge from textile-finishing factories	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane (ppb)	.2	1000	200	200	Discharge from metal degreasing sites and other factories	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
1,1,2-Trichloroethane (ppb)	.005	1000	5	3	Discharge from industrial chemical factories	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloroethylene (ppb)	.005	1000	5	0	Discharge from metal degreasing sites and other factories	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Toluene (ppm)	1	-	1	1	Discharge from petroleum factories	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Vinyl Chloride (ppb)	.002	1000	2	0	Leaching from PVC piping; Discharge from plastics factories	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Xylenes (ppm)	10	-	10	10	Discharge from petroleum factories; Discharge from chemical factories	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Disinfection Byproducts (DPBs)						
Bromate (ppb)	.010	1000	10	0	Byproduct of drinking water disinfection	Some people who drink water containing bromate in excess of the MCL over many years have an increased risk of getting cancer.

Contaminant (CCR units)	Traditional MCL*	To convert for CCR, multiply by	MCL in CCR units	MCLG in CCR units	Major Sources in Drinking Water	Health Effects Language (To be included if a violation occurs)
Chloramines (ppm)	MRDL= 4	-	MRDL= 4	MRDLG= 4	Water additive used to control microbes	Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.
Chlorine (ppm)	MRDL= 4	-	MRDL= 4	MRDLG= 4	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorine dioxide (ppb)	MRDL= 0.8	1000	MRLD= 800	MRDLG= 800	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Chlorite (ppm)	1	-	1	0.8	Byproduct of drinking water disinfection	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Haloacetic Acids (HAA5) (ppb)	.060	1000	60	n/a	Byproduct of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Total organic carbon	TT			n/a	Naturally present in the environment	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects and may lead to an increased risk of getting cancer.
TTHMs [Total trihalomethanes] (ppb)	.080	1000	80	n/a	By-product of drinking water disinfection	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

* Not all contaminants listed have MCLs. Some have Treatment Technique (TT) levels, Action Levels (AL)s, or Maximum Residual Disinfectant Levels (MRDL)s.

Key

AL	Action Level
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MFL	million fibers per liter
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum residual Disinfectant Level Goal
mrem/year	millirems per year (a measure of radiation absorbed by the body)
n/a	Not Applicable
NTU	Nephelometric Turbidity Units
pCi/l	picocuries per liter (a measure of radioactivity)
ppm	parts per million, or milligrams per liter (mg/l)
ppb	parts per billion, or micrograms per liter (µg/l)
ppt	parts per trillion, or nanograms per liter
ppq	parts per quadrillion, or picograms per liter
TT	Treatment Technique

Statutory Authority: RCW 43.20.050 and 70.119A.080. 04-04-056, § 246-290-72012, effective 3/1/04. Statutory Authority: RCW 43.20.050 (2) and (3) and 70.119A.080. 03-08-037. § 246-290-72012, effective 4/27/03. Statutory Authority: RCW 43.20.050. 00-15-080, § 246-290-72012, effective 8/19/00.